NEW YORK STATE

DESIGN STANDARDS FOR

INTERMEDIATE SIZED

WASTEWATER TREATMENT SYSTEMS

MARCH 5, 2014

New York State

Department of Environmental Conservation

Division of Water

625 Broadway

Albany, New York 12233-3505

Andrew M. Cuomo, Governor

Joe Martens, Commissioner

Table B-2 Minimum Horizontal Separation Distance (in feet)

Existing Feature	Watertight Septic Tank	Sewer Line	Absorption Field or Unlined Sand Filter (Including Replacement Area)	Absorption Field Located in Gravel Soils (Including Replacement Area)	Seepage Pits (Including Replacement Area)
Required Minimum Horizontal Separation Distances per Public Health Law					
Drilled Well – Public water system[4]	100	50	200	200	200
Drilled Well – Private water system[5]	50	50	100	200	150
Water Line (Pressure) [6]	10	10	10	10	10
Recommended Minimum Horizontal Separation Distances					
Water Line (Suction)	50	50	100	100	150
Dug Well / Spring [7]	75	50	150	200	150
Surface Water [8]	50	25	100	100	100
Reservoir (water supply) – Private [9]	50	50	100	100	100
Reservoir (water supply) – Public [9]	100	100	200	200	200

[4]Refer to Public Health Law Part 5-1, Appendices 5-B & 5-D

[5]Refer to Public Health Law Part 5-1, Appendix 5-B

[6]Refer to Public Health Law Part 5-1, Appendix 5-A

[7]When wastewater treatment systems are located up-gradient and in the direct path of surface runoff to a well, the closest part of the treatment system should be at least 200 feet away from the well.

[8]If there is a direct discharge to surface water, use the Surface Water separation distances; if a water supply use the Reservoir (water supply) distances.

[9]Refer to local watershed rules and regulations for possible superseding specifications.

etc.) and exclude extraneous data. There should be a reasonable explanation for the operational variations and any extraneous data excluded.

Method 3: Water Usage Data

A minimum of one year of data collected during similar operational conditions may be required by the Reviewing Engineer. If sufficient measured water usage data is not available, Method 3 should not be used. The average of the daily (24-hour) flow over the duration of the data collection period is an acceptable method for determining the average daily flow rate. The largest daily (24-hour) measured volume during the same period expressed in volume per unit time is an acceptable method for determining the maximum day flow rate. The analysis should account for operational variations (e.g. peak seasonal, weekends, special events, delivery period, etc.) and exclude extraneous data. There should be a reasonable explanation for operational variations and any extraneous data excluded.

For each of these methods, the peak hourly flow rate (largest hourly volume expressed in volume per unit time) should also be identified. When variation in the wastewater flow rate is expected to be substantial, it is necessary to examine the significant delivery period of the wastewater and base the system design upon this information to prevent an excessive rate of flow through wastewater collection and treatment systems. Flow equalization prior to treatment units should be considered to avoid hydraulic overloading of treatment units during peak loading periods (peak hourly flow and maximum daily flow).

Table B-3 Typical Per-Unit Hydraulic Loading Rates

Residential

Type of Use	*Unit*	*Gallons per Day*
Apartment	Per Bedroom	110/130/150[16]
Mobile Home Park	"Single-Wide" Home "Double-Wide" Home	220 330
Single Family Residence	Per Bedroom	110 / 130/ 150[17]

[16] 110 gpd for post 1994 plumbing code fixtures; 130 gpd for pre 1994 fixtures; and 150 gpd for pre 1980 fixtures. Homes over 1,000 gpd, community systems, or lodging establishments with high flow fixtures must account for any higher peak flow periods.

[17] For individual household systems under 1,000 gpd, use design flows in the NYSDOH's *Wastewater Treatment Standards Residential Onsite Systems - Appendix 75- A.*

Food Service Operations[27]

Type of Use	*Unit*	*Gallons per Day*
Ordinary Restaurant	Per Seat	35
24-Hour Restaurant	Per Seat (for cafeterias: pro rate flow in proportion to the hours)	50
Fast Food Restaurant	Per Seat	25
	Per Drive-Up Window	500
Lounge, Bar	Per Seat	20
Drive-In	Per Car Space	50
Banquet Hall	Per Seat	10
Restaurant along Freeway	Per Seat	75

B.6.c Infiltration, Inflow, Non-Sanitary and Prohibited Flows

Cooling water, roof drains, footing, sump and basement floor drains should not be discharged to the treatment system. Clean water from ice machines, water cooled refrigerators or coolers should also be excluded. Undetected leaks from plumbing fixtures, typically toilets and faucets, can waste significant amounts of water and subsequently increase the volume of wastewater to be treated. Simple repairs and routine operation and maintenance of plumbing fixtures can save water and increase the efficiency of wastewater treatment system.

Similarly, leaking sewer joints, pipe tank seals, tank riser seals, cracks in treatment tanks and manhole covers that are not watertight can be significant sources of infiltration of the system. These extraneous flows can cause periodic hydraulic overloads and affect treatment performance which can lead to system failure. Exfiltration from the system can have a negative impact on groundwater quality.

The discharge of swimming pool filter backwash wastewater should not be directed to a septic tank

[27] Garbage grinder use should be evaluated in the design phase of the project and accounted for in tank sizing per Section D.6 Septic Tanks.